

## Sedation Issues in the ASC

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## Conflicts

- I have no conflicts of interest to declare
- No sponsorships

## Speaker Background

Nova Anesthesia Professionals  
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Operate Anesthesia Services for 40,000 cases yearly  
ASC, OBA and Small Hospital  
Vice-President of Society of Ambulatory Anesthesia (SAMBA)  
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Secretary of the BOD of AAAHC  
Vice-Chair of Standards and Procedures Comm

## Objectives

- What is Sedation and Deep Sedation?
- ASA monitoring standards changes
- Studies and Evidence re standards change
- Implications of Change
- Drug shortages and Sedation
- Infection Control and Sedation
- Who is giving Sedation in your center

## What is Sedation?

- MAC: Is it just a billing term? To everyone?
- Minimal
- Moderate (conscious)
- Deep
- General without an ETT

## What is Deep Sedation?

- Majority of sedation given by trained anesthesia providers
- Same risk as GA
- Minutes or Hours
- Official Description: Drug induced depression of consciousness during which patients are not easily aroused and respond purposefully with painful stimulation. Airway and ventilation may be inadequate and require intervention or assistance.

### What do the ASA Standards say?

- The exact text of the 2011 ASA Basic Monitoring Standard:  
 "3.2.4 During regional anesthesia (with no sedation) or local anesthesia (with no sedation), the adequacy of ventilation shall be evaluated by continual observation of qualitative clinical signs. During moderate or deep sedation the adequacy of ventilation shall be evaluated by continual observation of qualitative clinical signs and monitoring for the presence of exhaled carbon dioxide unless precluded or invalidated by the nature of the patient, procedure, or equipment."

### Implication of Guidelines

- Monitoring changes
- Not agreed upon by other societies
- What and where is the "evidence"
- Costs involved

### Capnography Studies

- Capnography enhances surveillance of respiratory events during procedural sedation: a meta-analysis

Main Results: During PSA, cases of respiratory depression were 17.6 times more likely to be detected if monitored by capnography than cases not monitored by capnography (95% CI, 2.5-122.1; P < 0.004). Conclusion: End-tidal carbon dioxide monitoring is an important addition in detecting respiratory depression during PSA.

Jonathan B. Waugh PhD (Associate Professor)<sup>a,□</sup>, Chad A. Epps MD  
*Journal of Clinical Anesthesia* 2011; 23, 189-196

### Closed Claim Studies

- *The risk and safety of anesthesia at remote locations: the US closed claims analysis*,  
 Julia Metzner, Karen L. Posner and Karen B. Domino

Conclusion: Data from the American Society of Anesthesiologists, Closed Claims database suggest that anesthesia at remote locations poses a significant risk for the patient, particularly related to oversedation and inadequate oxygenation/ventilation during monitored anesthesia care. Similar anesthesia and monitoring standards and guidelines should be used in all anesthesia care areas.

*Curr Opin Anaesthesiol* 2009; 22:502 - 508

### Closed Claim Studies

- The severity of injuries for remote location was greater than in the OR and the proportion of respiratory events and deaths were almost double. Inadequate oxygenation/ventilation occurred seven times more frequently (21 vs. 3%, P<0.001).
- The most common site of claims was the GI suite. Over half (15 out of 28) of the GI claims involved oversedation during: (ERCP, n=7), upper endoscopy (n=7), and colonoscopy (n=1).
- Claims :cardiology (n=4), radiology (n=4) and lithotripsy (n=3)
- Common drug was propofol as the single agent or in combination with other drugs (n=17, 78%).
- Injuries were preventable by better monitoring in 62% of claims. A capnograph was employed in only (15%), and no respiratory monitoring was used in 15% of these claims.
- Death or brain damage resulted in the majority of claims (92%). Payment was made to the plaintiff in 73% of claims, with a median of \$460 000.

### Closed Claim Studies

- *Injury and Liability Associated with Monitored Anesthesia Care :A Closed Claims Analysis*
- **Conclusions:** Oversedation leading to respiratory depression was an important mechanism of patient injuries during MAC. Appropriate use of monitoring, vigilance, and early resuscitation could have prevented many of these injuries. Awareness and avoidance of the fire triad (oxidizer, fuel, and ignition source) is essential to prevent on-the-patient fires.

Sanjay M. Bhanaiker, M.D., F.R.C.A.,\* Karen L. Posner, Ph.D.,† Frederick W. Cheney, M.D.  
*Anesthesiology* 2006; 104:228 -34

## Other Opinions

- Statement: ASGE, ACG, AGA
- "Universal adoption of capnography for moderate sedation in adults undergoing upper endoscopy and colonoscopy has not been shown to improve patient safety or clinical outcomes and significantly increases costs for moderate sedation."

## Implication of Guidelines

- End Tidal CO<sub>2</sub> monitors
- Portable vs. stationary
- Cost of cannula
- Apply to all areas where you may sedate
- Not following the standards
- Education of related health care workers

## Drug Shortages and Sedation

- Versed
- Fentanyl
- Propofol
- Many others i.e. muscle relaxants, atropine, antibiotics, etomidate, intralipid, etc.

## Drug Procurement Strategies

- Several contracts
- Several vendors
- Cost increases
- Compounding pharmacies
- Increasing par lists
- Varying lot numbers

## The Substitution Details

- Be aware: Inconsistency increases Error
- Look alike drugs
- Dis-organized drugs
- Out-dated drugs
- Recall systems in your institution
- Inservice staff when sedation agents and other drugs change



### Drug usage and Infection Control

- Safe Injection Practices to Prevent Transmission of Infections to Patients, can be found at [http://www.cdc.gov/injectionsafety/IP07\\_standardPrecaution.html](http://www.cdc.gov/injectionsafety/IP07_standardPrecaution.html).



### Infection Control

- The United States Pharmacopeia (USP) is the official public standards-setting authority for all prescription and over-the-counter medicines, dietary supplements, and other healthcare products manufactured and sold in the United States. **USP 797:**
- Opened or needle-punctured single-dose containers, such as bags, bottles, syringes, and vials of sterile products and CSPs shall be used within **1 hour** if opened in worse than ISO Class 5 (maximum of 3,520 particles up to 0.5 microns in size per cubic meter of air) air quality, and **any remaining contents must be discarded.**

### Infection Control

- Single-dose vials exposed to ISO Class 5 or cleaner air may be used up to 6 hours after initial needle puncture.
- Opened single-dose ampules **shall not be stored** for **any** time period.
- Multiple-dose containers (e.g., vials) are formulated for removal of portions on multiple occasions because they usually contain antimicrobial preservatives. The beyond-use-date (BUD) after initially entering or opening (e.g., needle-punctured) multiple-dose containers is 28 days unless otherwise specified by the manufacturer.

### What does this mean to you?

- Draw up only drugs used within 1 hour
- Label all syringes with date, time, drug, drug concentration and initials
- Do not mix drugs
- Do not use IV bag for diluent
- Discard and waste/dispose all vials and drugs after each patient

### What are my options?

- You don't have to like it
- You have to comply
- Anesthesia practices have come under increasing scrutiny
- Do not leave room for "suspicion"
- Re - Learn the new "habits"

### Eyes on you



### Different standards in the same institution

- Anesthesiologist delivered sedation
- Anesthesiologist supervised delivered sedation
- Independent CRNA delivered sedation
- Procedurist directed CRNA delivered sedation
- Procedurist directed/RN delivered sedation

### Can any one supervise?

- ADVISORY ON GRANTING PRIVILEGES FOR DEEP SEDATION TO NON- ANESTHESIOLOGIST SEDATION PRACTITIONERS

- *Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists*

An Updated Report by the American Society of Anesthesiologists Task Force on Sedation and Analgesia by Non-Anesthesiologists  
Anesthesiology 2002; 96:1004–17 © 2002 American Society of Anesthesiologists, Inc.  
Lippincott Williams & Wilkins, Inc.

### Questions?

